LISTING OF THE CLAIMS

Claim 1 (Previously presented): A method of arranging carbon nanotubes at selected orientations on the surface of a substrate, comprising the steps of:

1) subjecting a solid substrate to a hydrophilic or hydrophobic treatment;

2) chemically modifying purified carbon nanotubes by surface attachment of organic macromolecules with hydrophilic and hydrophobic ends to the purified carbon nanotubes;

3) dissolving the chemically modified carbon nanotubes in water or an organic solvent to form a solution;

4) spreading the solution onto the surface of a body of water;

5) vaporizing the water or organic solvent from the spread solution to create a monolayer film of carbon nanotubes on the water body surface;

6) after said vaporizing, compressing the monolayer film on the water body surface by controlling a surface pressure-area isotherm of the monolayer film; and

7) transferring the compressed monolayer film to a surface of the treated solid substrate to form thereon a layer of selectively oriented carbon nanotubes.

Claim 2 (Previously presented): The method of claim 1, wherein the hydrophilic treatment of the solid substrate includes submerging the solid substrate into a concentrated acid at a temperature above 50°C.

Claim 3 (Previously presented): The method of claim 2, wherein the concentrated acid is a concentrated nitric acid.

Claim 4 (Previously presented): The method of claim 1, wherein:

said chemically modifying the purified carbon nanotubes includes sulfating the carbon nanotubes to form carboxyl groups on each of the two ends and a side of each of the carbon nanotubes, and acylating and aminating the carbon nanotubes to attach the organic macromolecules to the carbon nanotubes; where the sulfating is followed by the acylating and

aminating.

Claim 5 (Previously presented): The method of claim 1, wherein the surface pressure-area isotherm of the monolayer film is controlled with a pressure of about 20-50mN/m.

Claim 6 (Previously presented): The method of claim 1, wherein a high energy light irradiation is applied to the layer of selectively oriented carbon nanotubes so that some of the organic macromolecules with hydrophilic and hydrophobic ends are decomposed and evaporated from the substrate.

Claim 7 (Previously presented): The method of claim 6, wherein the high energy light irradiation is UV irradiation.

Claim 8 (Previously presented): The method of claim 2, wherein a high energy light irradiation is applied to the layer of selectively oriented carbon nanotubes so that some of the organic macromolecules with hydrophilic and hydrophobic ends are decomposed and evaporated from the substrate.

Claim 9 (Previously presented): The method of claim 3, wherein a high energy light irradiation is applied to the layer of selectively oriented carbon nanotubes, so that some of the organic macromolecules with hydrophilic and hydrophobic ends are decomposed and evaporated from the substrate.

Claim 10 (Previously presented): The method of claim 4, wherein a high energy light irradiation is applied to the layer of selectively oriented carbon nanotubes, so that some of the organic macromolecules with hydrophilic and hydrophobic ends are decomposed and evaporated from the substrate.

Claim 11 (Previously presented): The method of claim 5, wherein a high energy light irradiation

is applied to the layer of selectively carbon nanotubes, so that some of the organic macromolecules with hydrophilic and hydrophobic ends are decomposed and evaporated from the substrate.

Claim 12 (Previously presented): The method of claim 8, wherein the high energy light irradiation is UV irradiation.

Claim 13 (Previously presented): The method of claim 9, wherein the high energy light irradiation is UV irradiation.

Claim 14 (Previously presented): The method of claim 10, wherein the high energy light irradiation is UV irradiation.

Claim 15 (Previously presented): The method of claim 11, wherein the high energy light irradiation is UV irradiation.

Claim 16 (Previously presented): The method of claim 1, wherein the hydrophobic treatment of the solid substrate includes submerging the solid substrate into a concentrated acid at a temperature above 50°C, and silanizing the solid substrate, wherein the submerging is followed by the silanizing.

Claim 17 (Previously presented): The method of claim 16, wherein the concentrated acid is a concentrated nitric acid.

Claim 18 (Previously presented): The method of claim 1, wherein said chemically modifying the purified carbon nanotubes includes nitrifying the carbon nanotubes to form carboxyl groups on each of the two ends and a side of each of the carbon nanotubes, and acylating and aminating the carbon nanotubes to attach the organic macromolecules to the carbon nanotubes; where the nitrifying is followed by the acylating and aminating.

Claim 19 (Previously presented): The method of claim 1, wherein said chemically modifying the purified carbon nanotubes includes sulfating and nitrifying the carbon nanotubes to form carboxyl groups on each of the two ends and a side of each of the carbon nanotubes, and acylating and aminating the carbon nanotubes to attach the organic macromolecules to the carbon nanotubes, wherein the sulfating and nitrifying are followed by the acylating and aminating.